

**County of Henrico**

**Office of Building Construction and Inspections**

**Summary of 2015 Virginia Code Changes Pertaining to**

**Residential Plumbing, Mechanical, Gas and Electrical Permits**

The 2015 Edition of the Virginia Residential Code (the VRC) was adopted by the Commonwealth of Virginia effective September 4, 2018. The one-year grace period during which either the 2015 Edition or the previous 2012 Edition may be used expires on September 4, 2019. All permit applications submitted on or after September 4, 2019, will be reviewed under the 2015 code edition.

This summary of changes to the Plumbing, Mechanical, Gas and Electrical Codes is not intended to be

all-inclusive but includes those changes thought to be most pertinent.

Copies of the 2015 Edition of the VRC and other codes included in the Virginia Uniform Statewide Building Code

 are available for free online viewing or for purchase at:

[https://codes.iccsafe.org/category/Virginia?year[]=2012&year[]=2015&page=1](https://codes.iccsafe.org/category/Virginia?year%5b%5d=2012&year%5b%5d=2015&page=1)

If you have questions regarding the 2015 Code Changes feel free to call our office at (804) 501-4360.

**Plumbing**

**P2602.3 Tracer wire** - A tracer wire (min. 18 AWG copper) is now required for nonmetallic water services that connect to public systems. At a minimum, one end of this wire shall terminate at meter vault or at building wall (outside). This will pertain to new and replacement water services.

**P2603.2.1 Protection against physical damage** - The minimum clearance distances from concealed piping to the edge of the framing members has been reduced from 1 ½” to 1 ¼”.

**P2801 Water heater drain valves and pans** – 1) Requires drain valves with a threaded outlet. 2) aluminum and plastic pans of a prescribed thickness are now allowed. 3) Plastic pans shall not be installed beneath a gas fired water heater.

4) Establishes the rule: where a pan was not previously installed, a pan drain shall not be required for a replacement water heater installation.

**P2804.6.1 Water heater relief valve discharge piping** - Item 10 requires the T&P valve piping to terminate not less than two (2) times the discharge pipe diameter above the floor or waste receptors flood level rim, and not more than 6”.

Item 14 requires Pex or PE-RT tubing used as discharge piping to be increased by one nominal size greater than the relief outlet. This is to allow for the fittings that decrease the I.D. of this discharge piping.

**P3003.9 Solvent cementing of PVC joints** – Added an exception not requiring primer on non-pressure DWV piping, based on recent testing by the NSF that determined that the bonding forces of unprimed connections exceed requirements for gravity DWV systems. However, many manufacturers require the use of primer and some glues cannot be used without a primer. Glues used without primer must conform to ASTM D2564. Where conflicts occur between the code and manufacturer’s installation instructions, the more restrictive shall apply.

**P3201.2 Trap seal protection against evaporation** – Traps subject to evaporation are to be protected by trap seal primer valves or devices. Barrier type trap seal-protection devices, which are now approved under 2015 VRC, must comply with the ASSE 1072 standard and be installed in accordance with the manufacturer’s instructions.

**Mechanical**

**N1103.3 Duct sealing and testing -** The visual inspection option for HVAC ducts has been deleted. A duct air leakage test is now required, with testing results submitted to the inspector. Exception: Systems located entirely within the building envelope.

**M13051.3.1 Electrical Requirements -** Luminaires installed for the appliance location in attic or crawl that are required to have lamp guards or be protected by its location surroundings.

**M1411.4 & G2404.11 (307.6) Condensate pumps** Condensate pumps located in uninhabitable spaces must be connected to the appliance to shut down the equipment in the event of pump failure.

**M1502.4.5.3 - Dryer exhaust duct power ventilators** to increase the allowable exhaust duct length for clothes dryers are now code recognized and must be installed per the manufacturer’s installation instructions. Provide copy of instructions onsite for inspection.

**M1506.2 Exhaust duct length –** Table M1506.2 establishes maximum exhaust and supply duct lengths used with ventilating equipment based on duct diameter, type of duct and air flow rating.

**Gas**

**G2411.1.1 Electrical bonding of corrugated stainless-steel tubing** - The maximum allowable length of the bonding jumper for corrugated stainless-steel tubing (CSST) is 75 feet. CSST with a listed arc-resistant jacket or coating is considered to be bonded where it is connected to appliances that are connected to the equipment grounding conductor of the circuit supplying that appliance. Be aware that non-power vented gas water heaters and fire pits have no electrical connections, and therefore no equipment ground, and therefore will still require bonding.

**G2421.2 Medium – Pressure regulators** - A union shall be installed within 1’ of either side of the MP regulator when it is connected to rigid piping.

**G2427.4.1 & G2427.6.8.3 Plastic piping** - Plastic piping used for venting appliances shall be of the specific plastic piping material and size specified by the appliance manufacturer, identified in the manufacturer’s installation instructions. Installation instructions shall be on site for inspections.

**Electrical**

\*NEC code wide change in nominal voltage from 600 volts to 1000 volts.

NEC 210.8(A)(7) &IRC E3902.7- All receptacles within 6 feet of all sinks require GFCI protection. This section formerly required this protection just for counter-top receptacles.

NEC 210.8(A)(9) &IRC E3902.8-. All receptacles installed within 6 feet of the outside edge of all bathtubs or showers now require GFCI protection.

NEC 210.8(A)(10) &IRC E3902.9- All receptacles in laundry areas now require GFCI protection.

NEC 210.8(D) Dishwashers, whether hardwired and cord and plug connected, now require GFCI protection.

NEC 210.12& VRC E3902.16 Receptacles installed in bedrooms of 1 and 2 family dwellings require Arc-Fault protection (AFCI). Permits for this type of construction will state they are permitted using IRC (International Residential Code).

NEC 210.17 &IRC E3702.13 Electric Vehicle Branch Circuit. Outlets installed for charging electric vehicles shall be supplied by a separate branch circuit, with no other outlets.

NEC 210.52(G)(1) &IRC E3901.9. Garage receptacle outlets must be served by a separate branch circuit with no other outlets. One outlet is required for each car space. Car space is not determined by number of garage doors.

NEC 250.122(B) When an ungrounded conductor is increased in size for voltage drop, for reasons unrelated to minimum ampacity requirements of conductors, the equipment ground must also be upsized proportionately.

NEC 404.2© &IRC E4001.15 Switches Controlling Lighting Loads. This change added more circumstances where an ungrounded conductor is not required at the location where switches control lighting loads

NEC 406.9(B)(1) & IRC E4002.9 - 15 and 20 amp 125- and 250-volt receptacles installed in a wet location now require in-use covers rated extra duty.

NEC 445.11 Generator Marking. All generators over 15KW shall provide marking from the manufacturer whether the generator neutral is bonded to the generator frame. Where bonding of a generator is modified in the field additional marking is required to indicate if the generator neural is bonded to the generator frame.

NEC 680.42(B) Bonding. An equipotential bonding grid is not required for outdoor spas and hot tubs when the installation meets the 4 requirements of this section.(1)listed as self- contained spa.(2) Listed for outdoor use.(3) Installed per manufactures instructions.(4) The top rim is at least 28” above grade and at least 30” from any perimeter surfaces.